

**LIVENESS MONITORING IN A  
PUBLISH/SUBSCRIBE MESSAGING SYSTEM**

**ABSTRACT OF THE DISCLOSURE**

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A variety of techniques are disclosed for efficient liveness monitoring in a reliable publish/subscribe multicast system having at least one broker and at least one subscriber, by: at the broker, sending (310) a status request message to the subscriber, and at the subscriber, sending (350) a status response message to the broker to indicate liveness. Status responses by subscribers may be suppressed when at least a chosen minimum number ( $\geq 1$ ) of subscribers send a response. This suppression (320-340) uses a system of "response claim" messages and random back-off timers. These provide the advantage that the efficiency of network usage is improved by reducing the number of unwanted packets that are sent.